DEPARTMENT OF AGRICULTURE
CANADA

REPORT

OF THE

VETERINARY DIRECTOR GENERAL

(F. TORRANCE, B.A., D.V.Sc.)

FOR THE

YEARS ENDING MARCH 31, 1919, AND MARCH 31, 1920

PRINTED BY ORDER OF PARLIAMENT

OTTAWA
THOMAS MULVEY
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1921

[No. 15b, 1921]

The Honourable S. F. TOLMIE,
Minister of Agriculture.

SIR,—I have the honour to submit my reports for the years ending March 31, 1919, and March 31, 1920.

I have the honour to be, sir,

Your obedient servant,

F. TORRANCE, B.A., D.V.Sc.
Veterinary Director General.

REPORT

OF THE

VETERINARY DIRECTOR GENERAL

FOR THE YEAR ENDING MARCH 31, 1919

CONTAGIOUS DISEASES DIVISION

The health of Canada's live stock during the year has been highly satisfactory. None of the epizootic diseases which cause most anxiety to sanitary officials such as foot and mouth disease, cattle plague and contagious pleuro-pneumonia have been found within our borders. Glanders, hog cholera, and cattle mange have chiefly occupied our field force and it will be noted by the following statistics that they have been kept under control and progress accomplished.

GLANDERS

The greater part of Canada is now free from glanders and the number of cases discovered is less than half the figure of last year. Most of these cases occurred in the northern part of Saskatchewan and Manitoba among horses which had been used during the winter in hauling supplies, etc., to and from the mines in the Le Pas district. The infection appears to have now been stamped out. Its origin is however unknown.

GLANDERS STATISTICS BY PROVINCES APRIL 1, 1918, TO MARCH 31, 1919.

Province	Horses, mules and asses tested and found healthy	Horses killed	Valued at	Compensation paid	Clinical reactors	Electoral Districts in which glanders was detected	Remarks
Nova Scotia	1						
New Brunswick	109						
Quebec	560	2	290 00	193 33	1	2 Bagot.	Killed at first test.
Ontario	373						
Manitoba	1,130	16	3,180 00	2,120 00	4	16 Nelson.	Killed at first test.
Saskatchewan	2,799	50	8,465 00	5,643 33	11	31 Humboldt. 11 Last Mountain. 6 MacKenzie. 2 Saltcoats.	2 killed on inspection. 36 killed at first test. 12 killed at second test.
Alberta	955	15	2,325 00	1,550 00	5	15 Battle River.	Killed at first test.
British Columbia	354						
Yukon	20						
Total	6,301	83	14,260 00	9,506 66	21		

SESSIONAL PAPER No. 15b

HOG CHOLERA

The campaign for increased production of hogs was highly successful and hog raisers increased their herds to a great extent. It thus happened that when our attention was called to an outbreak of hog cholera, we would frequently find a very large number of hogs involved. Losses from the disease in Canada are therefore somewhat heavier than last year, but in every case outbreaks were promptly controlled, and by the use of serum the losses were reduced to a minimum. The value of the system of licensing persons who collect garbage and feed it to hogs is again demonstrating its usefulness not only in preventing infection through uncooked and virulent material, but by keeping the inspectors of the branch in close touch with the persons in this line of business. Early information of any suspicious sickness among hogs is thus obtained and measures to prevent the spread of infection can be taken. It may be added that the sanitary conditions of these premises have greatly improved through the work of the inspectors.

HOG CHOLERA STATISTICS BY PROVINCES APRIL 1, 1918, TO MARCH 31, 1919.

Province	No. of outbreaks	No. of hogs involved	No. of hogs slaughtered	Valued at	Compensation paid	Premises quarantined on suspicion	No. of hogs involved	No. of hogs slaughtered for examination	Value
				$ cts.	$ cts.				$ cts.
Nova Scotia	2	1,521	314	4,567 00	3,044 65	1	165	.....	.....
New Brunswick	1	3	3	45 00	30 00	1	100	.....	.....
Quebec	5	309	173	2,949 00	1,741 98	20	43	.....	.....
Ontario	35	1,600	848	16,295 00	9,171 73	193	2,482	51	916 00
Manitoba	6	1,690	286	5,137 00	3,117 95	12	722	3	29 00
Saskatchewan	1	12	12	156 00	.....	8	337	.....	.....
Alberta	2	4,224	527	9,354 00	6,236 43	7	307	9	116 00
Total	52	9,359	2,163	38,503 00	23,342 74	242	4,156	63	1,061 00

SESSIONAL PAPER No. 15b

HOG CHOLERA OUTBREAKS BY PROVINCES

Province	Electoral District	No. of outbreaks	Hogs destroyed
Nova Scotia	Halifax	2	314
New Brunswick	St. John and Albert	1	3
Quebec	Chambly and Verchères	2	55
	Vaudreuil-Soulanges	1	1
	Laval-Two Mountains	1	112
	Quebec	1	5
Ontario	Algoma West	2	20
	Elgin East	1	15
	Elgin West	1	30
	Essex North	4	61
	Essex South	3	87
	Haldimand	1	2
	Kenora	1	27
	Kent	1	78
	Lambton East	2	15
	Leeds	2	232
	Lincoln	1	8
	Middlesex	1	1
	Nipissing	1	37
	Peel	2	12
	Simcoe North	1	38
	Wellington South	1	15
	York West	5	115
	York South	3	42
	York East	2	13
Manitoba	Dauphin	1	56
	Winnipeg	1	87
	Provencher	1	43
	Lisgar	1	25
	Winnipeg Centre	1	18
	Selkirk	1	57
Saskatchewan	Moosejaw	1	12
Alberta	Calgary	1	513
	Macleod	1	14
Total		52	2,163

DOURINE

This disease which at one time seriously threatened the horse-breeding industry of Western Canada may now be considered as finally stamped out. No clinical cases have been observed for two years. The animals shown as slaughtered are a few which have failed to make a satisfactory showing when subjected to the complement fixation test of their blood. As a precaution, however, the stallions of the dourine area will be tested before the breeding season commences.

A total of five animals, valued at $392, were slaughtered as being affected with the disease, at a cost of $261.33, distributed as follows:—

District	Province	Suspected and Quarantined	Slaughtered
Prince Albert	Saskatchewan	2	.....
Saskatoon	"	2	.....
Battle Creek	"	1	.....
Bow River	Alberta	8	.....
East Calgary	"	3	.....
Lethbridge	"	1	1
Macleod	"	.....	4
Red Deer	"	3	.....
		20	5

HORSE MANGE

Province	Outbreaks	Animals Affected	Animals Quarantined
Ontario	1	2	7
Alberta	1	3	20

A total of 4,817 horses and 40 mules were inspected on being presented for shipment from the quarantined area in Alberta and Saskatchewan.

SCABIES

Mange of cattle has and is occasioning much concern to us and is causing no small loss and annoyance to the stockmen of the mange area. The branch is finding it a difficult task to stamp out the disease, chiefly owing to the fact that the area affected is partly open range country in which cattle roam widely and are not always kept from mixing with other herds. But this fact, although aiding in the spread of the disease, and making it difficult to carry out effective dipping, is not the only trouble. The stockmen have not given the branch the willing assistance and co-operation that is essential for successfully dealing with the disease. There are many who have done all that could be expected of them, but there are also a large number who look upon the mange regulations as a needless interference with the traffic in cattle and evade them if possible.

In spite of these difficulties some progress has been made in controlling it and a large portion of the area has been cleaned up and will shortly be released from the obnoxious blanket quarantine. From time to time as circumstances permit the boundaries of the area will be shortened until they can be entirely removed.

The severe drought affecting the southern part of the mange area reduced the available forage to such an extent that it became necessary to make a decision between allowing some of the cattle to starve or to permit their removal to the northern part of the province where feed could be obtained. Owing to the lateness of the season dipping could not be carried out as effectually as was desirable, and in consequence mange was introduced in a few localities previously clean. The herds affected have been placed under quarantine and will be dipped as soon as the weather permits. It is to be hoped that this limited infection of the northern part of the province will soon be eradicated.

CATTLE MANGE

Dominion

Province	Outbreaks	Animals Affected	Animals Quarantined
Saskatchewan	12	81	15,473
Alberta	171	2,117	84,763

One hundred and twenty-four thousand eight hundred and thirty-two cattle were inspected on being presented for shipment from the quarantined area in Alberta and Saskatchewan, and 263,867 cattle were inspected in Winnipeg on arrival from points west thereof.

SHEEP SCAB

In Manitoba, six animals on one man's premises were found to be infected with sheep scab, involving the control of twenty-eight animals on this one premises in the district of Selkirk.

SESSIONAL PAPER No. 15b

RABIES

In Ontario, fifteen premises were quarantined, distributed as follows:—

District	Premises Quarantined
Durham	3
Elgin, W. R.	1
Lincoln	1
Norfolk	1
Northumberland	6
Peel	2
Toronto	2
	15

No fatalities in human beings were reported.

ANTHRAX

The following outbreaks were reported and dealt with during the year:—

Province	Outbreaks	Animals Quarantined
Quebec	2	53
Ontario	2	147

The death of one human being was reported as due to anthrax.

TUBERCULOSIS

In municipal testing the work is slowly extending, but not to the extent that might be expected. Municipalities do not appear to realize the advantage of the Government's offer to test dairy herds free of charge and to pay compensation for cattle slaughtered as diseased. Many cities appear to think that pasteurizing the milk affords every protection. Other cities do not even take this precaution and the citizens are left to take their chances. The burden of this carelessness does not fall upon those who deserve it, but upon the poor defenceless children, many of whom are doomed to early graves or to lives of crippled misery from tubercular infection carried by the milk of diseased cows. Our first test of certain dairies sometimes reveals appalling conditions. In one dairy our inspectors found ten cows all of which reacted to the tuberculin test. When these were slaughtered, all were found diseased, some extensively. Among them were cows whose milk was loaded with tubercle bacilli. This dairy was distributing raw milk daily in the city. How many children were exposed to disease in this way is unknown, or how many contracted the disease but there is no reason to expect that all escaped. The city in question now has a safe milk supply, as all raw milk offered for sale is derived from tuberculin tested cows.

It will be noticed that the percentage of reactors found in Saskatoon is the lowest in the list. This city was the first in Canada to adopt the Federal Regulations. In other places the percentage varies considerably, reaching 7·03 per cent in Battleford, which is one of the latest to join the list.

Experience indicates that in dairy testing it need hardly be expected to reach a point where no reactors are found. This might be possible if a dairy herd could be maintained without adding to it constantly fresh cows from other herds. The dairyman must maintain a steady supply of milk to satisfy his customers, and can only do so by replacing his cows that go dry by others that have just freshened. These fresh cows have to be tested before they are added to the herd, and in some cases react to the test and in this way keep up the percentage for an owner who has a clean herd.

ACCREDITED HERD SYSTEM

This system was adopted in the United States by the Bureau of Animal Industry in 1917 and already has made great progress. It is a plan for assisting the owner of a pure-bred herd to get rid of tuberculosis if it is present and when he has done so to give him the advantage of having his herd placed on the list of tuberculosis free herds, or "accredited." Efforts have been made to interest our breeders in this work by addresses and articles in the press. It is most important that the system should be adopted in Canada without delay, as otherwise our pure-bred cattle are in danger of losing the American market.

TUBERCULOSIS MUNICIPAL TESTING, APRIL 1, 1918 TO MARCH 31, 1919

Town	Cattle Tested. No. of test							Total cattle tested	Reactors	Percentage of reactors	Value	Compensation paid	Remarks
	1	2	3	4	5	6	7						
											$ cts.	$ cts.	
North Battleford, Sask	260	188	95	35	14	2	3	597	42	7·03	3,178 00	2,118 66	
Saskatoon, Sask	885	469	357	271	201	53	9	2,245	33	1·47	2,795 00	1,863 28	5 of the 33 reactors not yet slaughtered nor paid for.
Regina, Sask	486	559	306	91	45	6	...	1,493	32	2·14	2,570 00	1,713 33	1 reactor not yet slaughtered nor paid for.
Virden, Man	148	41	...	...	...	...	...	189	9	4·76	985 00	656 63	
Ottawa, Ont	749	526	132	69	47	32	..	1,555	47	3·02	5,775 00	3,849 93	6 reactors not yet slaughtered nor paid for. 30 reactors held from previous year paid for.
Total	2,528	1,783	890	466	307	93	12	6,079	163	2·68	15,303 00	10,201 83	

NOTE.- It must be remembered that most of the herds comprised in this table have been under test for one or more years and all reactors removed. Hence the comparatively low percentage of disease shown.

TUBERCULIN TESTING IMPORT, EXPORT AND GENERAL, APRIL 1, 1918, TO MARCH 31, 1919

Heading	Number tested	Reactors	Suspicious	Healthy	Percentage of reactors
Import	847	14	3	830	1·65
Export	1,252	33	2	1,217	2·63
Supervised herds and for shipment to various provinces	2,872	119	14	2,739	4·14
General testing by private practitioners with Departmental tuberculin	2,814	237	42	2,535	8·42
Total	7,785	403	61	7,321	5·20

IMPORT INSPECTIONS FROM UNITED STATES AND NEWFOUNDLAND.

Port	Horses	Mules	Cattle	Sheep	Swine	Goats	
Halifax, N.S.		97					
Sydney, N.S.	*4						*Includes 4 ponies.
St. Stephen, N.B.	39	2					
McAdam Jct., N.B.	73		4	39			*Includes 3 shetland ponies.
Debec Jct., N.B.	16		1				
Woodstock, N.B.	10		1				
Centreville, N.B.	2		2				2 calves.
Aroostook Jct., N.B.	37		13				
Grand Falls, N.B.	5		2				
St. Leonards, N.B.	8		1				
Edmundston, N.B.	10		1				
Florenceville, N.B.	4						
Comins Mills, Que.	21		12				
Lake Megantic, Que.	28						
Beauceville, Que.	402						
Coaticook, Que.	3						
Beebe Jct., Que.	15		41				
Sherbrooke, Que.	17		1		7		
Highwater, Que.	6		9				
Abercorn, Que.	4		4				
St. Armand, Que.	17		3				
Lacolle Jct., Que.	*118	7	11	12	7		*Includes 3 ponies.
Noyan Jct., Que.	10		7				
St. Johns, Que.	1						
Athelstan, Que.	536	49	37				
Dundee, Que.	47		47				
St. Agnes de Dundee, Que.	2						
Trout River, Que.	2		4				
Cornwall, Ont.	16		2				
Prescott, Ont.	35		38				
Morrisburg, Ont.	12	2	3				
Brockville, Ont.	14		2				
Kingston, Ont.	7	*1					*Includes 1 jackass.
Toronto, Ont.	1						
Niagara Falls, Ont.	*584	312	39	42		3	*Includes 1 pony.
Windsor, Ont.	*180	**4	58	58	15	8	*Includes 5 ponies, **Includes 1 ass.
Sarnia, Ont.	664		97	79	3	1	*Includes 1 pony.
Sault Ste. Marie, Ont.	17	2	*13		2		*Includes 1 ox.
Port Arthur, Ont.	7						
Rainy River, Ont.	20	2	10				
Fort Frances, Ont.	*106	1	42	4	5	6	*Includes 2 ponies.
Bridgeburg, Ont.	115	4	32	83	13	4	
Emerson, Man.	2,181	88	785	46	7	10	
Gretna, Ont.	161	6	89	3			
Snowflake, Ont.	134	4	83				
Bannerman, Ont.	289	1	65	2			
Sprague, Ont.	10						

SESSIONAL PAPER No. 15b

IMPORT INSPECTIONS FROM UNITED STATES AND NEWFOUNDLAND—*Concluded*

Port	Horses	Mules	Cattle	Sheep	Swine	Goats	
North Portal, Sask.	2,289	103	2,742	68	30	9	Also 1 camel, 1 elephant.
Northgate, Sask.	384	4	74			6	
Big Muddy, Sask.	415	2	151				
Willow Creek, Sask.	31		1,174				
West Poplar River, Sask.	532	*10	416	1,749			*Includes 1 ass.
Pinhorn, Alta.	59		5				
Coutts, Sask.	1,558	*74	2,083	8,631	22	378	Also 2 deer. *Includes 3 donkeys.
Twin Lakes, Alta.	62		57			3	
Newgate, B.C.	37		24				
Kingsgate, B.C.	881	49	622	113		10	
Rossland, B.C.	1						
Grand Forks, B.C.	16		131	70			
Midway, B.C.	44		5		15		
Myncaster, B.C.	8		14				
Bridesville, B.C.	50		27	1	20		
Keremeos, B.C.	50		243		2	1	
Osoyoos, B.C.	43	2	5	251			
Huntingdon, B.C.	100	8	181			225	
New Westminster, B.C.			17	365			
White Rock, B.C.	92	*7	295	68	4	147	*Includes 4 asses.
Vancouver, B.C.	122	63		2	3	2	
Victoria, B.C.	25	*17	1			41	*Includes 1 donkey.
Cascades, B.C.	6		1				
White Horse, Yukon	32		306	120	70	3	
Forty Mile, Yukon	122	3					
Total	12,949	924	10,133	11,806	225	857	

IMPORT INSPECTIONS FROM EUROPE AND ELSEWHERE TRAN UNITED STATES AND NEWFOUNDLAND

Port	Horses	Cattle	Sheep	Swine
St. John, N.B.			47	
Quebec, Que.	3	447	916	1
Montreal, Que.	13			
Niagara Falls, Ont.			11	
Bridgeburg, Ont.		2	1	
	16	449	975	1

IMPORT TESTING

Four thousand and fifty-four horses were tested on arrival from United States and allowed to proceed to their destination.

Entered at	Number	Entered at	Number
Aroostook Jct., N.B.	37	Rainy River, Ont.	22
Centreville, N.B.	2	Sarnia, Ont	34
Debec Jct., N.B.	7	Sault Ste. Marie, Ont.	10
Edmundston, N.B.	10	Windsor, Ont.	72
Florenceville, N.B.	4	Bannerman, Man.	93
Grand Falls, N.B.	5	Emerson, Man.	473
McAdam Jct., N.B.	28	Gretna, Man.	75
St. Leonards, N.B.	8	Sprague, Man.	10
St. Stephen, N.B.	3	Snowflake, Man.	120
Woodstock, N.B.	5	Big Muddy, Sask.	95
Athelstan, Que.	7	Northgate, Sask.	254
Abercorn, Que.	2	North Portal, Sask.	548
Beauceville, Que.	402	West Poplar, Sask.	412
Beebe Jct, Que.	10	Willow Creek, Sask.	31
Coaticook, Que.	3	Pinhorn, Alta.	40
Comins Mills, Que.	18	Coutts, Alta.	640
Dundee, Que.	8	Twin Lakes, Alta.	62
Highwater, Que.	4	Vancouver, B.C.	4
Lacolle Jct, Que.	2	White Rock, B.C.	9
Lake Megantic, Que.	28	Huntingdon, B.C.	36
Noyan Jct, Que.	7	Bridesville, B.C.	32
Sherbrooke, Que.	5	Myncaster, B.C.	8
St. Agnes de Dundee, Que.	2	Keremeos, B.C.	23
St. Armand, Que.	9	Osoyoos, B.C.	45
St. Johns, Que.	1	Rossland, B.C.	1
Trout River, Que.	2	Midway, B.C.	44
Bridgeburg, Ont.	9	Grand Forks, B.C.	16
Cornwall, Ont.	1	Cascades, B.C.	6
Fort Frances, Ont.	34	Kingsgate, B.C.	88
Kingston, Ont.	1	Newgate, B.C.	37
Morrisburg, Ont.	7		
Niagara Falls, Ont.	20	Total	4,054
Port Arthur, Ont.	7		
Prescott, Ont.	9		

PURE-BRED IMPORTS

HORSES

Breed—	Great Britain	United States	Total
Belgian	..	73	73
Clydesdale	13	8	21
French draft	..	2	2
Hackney	..	2	2
Percheron	3	245	248
Shetland	..	6	6
Shire	..	9	9
Standard	.	41	41
Thoroughbred	..	11	11
	16	397	413

CATTLE

Breed—	Great Britain	United States	Total
Aberdeen Angus	2	27	29
Ayrshire	49	4	53
Brown Swiss	..	4	4
Guernsey	47	13	60
Hereford	..	49	49
Holstein	..	22	22
Jersey	37	62	97
Polled Angus	1	..	1
Red Polled	..	3	3
Shorthorn	315	35	350
	449	219	668

PURE-BRED IMPORTS—*Concluded.*

SHEEP

Breed—	Great Britain	United States	Total
Cheviot	..	14	14
Cotswold	6	..	6
Dorset	..	16	16
Hampshire	297	..	297
Leicester	16	..	16
Lincoln	41	..	41
Oxford	11	..	11
Persian	..	2	2
Rambouillet	..	6	6
Shropshire	579	9	579
Southdown	34	..	34
	975	47	1,022

SWINE.

Breed—	Great Britain	United States	Total
Berkshire	..	9	9
Ohio Improved Chester	..	13	13
Poland China	..	2	2
	..	24	24

GOATS.

Breed—	Great Britain	United States	Total
Toggenburg	..	6	6
Anglo Nubian	..	1	1
Saanen	..	1	1
	..	8	8

DISEASED IMPORTS

Port	No. of animals in infected shipment	No. of shipments	No. of animals infected	Origin	Action
Morrisburg, Ont	cows 1	1	1	United States..	Returned.
West Poplar, Sask	" 26	1	2	"	2 returned.
" "	horses 14	2	3	"	All returned.
Grand Froks, B.C	cow 1	1	1	"	Returned.
Huntingdon, B.C	cows 12	1	1	"	1 returned.
Osoyoos, B.C	horses 4	1	1	"	All returned.
White Rock, B.C	cows 2	1	1	"	1 returned.
	60	8	10		
	18 horses				
	42 cattle				

ANIMALS INSPECTED FOR EXPORT.

Port	Horses	Cattle	Sheep	Swine
Charlottetown to Newfoundland	..	31	..	43
Halifax to Bermuda	26	20	..	—
Halifax to St. Pierre	2	45	28	—
Halifax to Port of Spain, W.I.	..	..	..	9
Sydney to Newfoundland	287	2,652	765	576
St. John to Bermuda	13	12	..	..
St. John to United States	2	1	2	2
Toronto to United States	..	15,921	3,104	230
Niagara Falls to United States	2	..	..	..
Sarnia to United States	..	1	..	60
North Portal to United States	..	875	..	..
Edmonton to United States	..	87	..	..
Bridesville to United States	..	2	..	..
Huntingdon to United States	..	17	..	..
New Westminster to United States	..	2	..	..
Total	332	19,656	3,899	920

PATHOLOGICAL DIVISION

The Biological Laboratory at Ottawa has satisfactorily supplied all the tuberculin and mallein required by inspectors of this branch, and in addition has furnished large quantities of blackleg vaccine for distribution to farmers. Other biological products manufactured on a smaller scale are anthrax vaccine, contagious abortion vaccine, influenza vaccine, etc. Valuable service is also rendered in the laboratory in the diagnosis of diseases from the microscopical examination of specimens of diseased tissues, tumours, etc., sent in by our inspectors in the field or in meat inspetion and also by practitioners.

Research work is carried on as far as our circumstances permit. The absence on military duty of two of the most experienced members of our staff has seriously limited our work in this direction. Another drawback is the limited space available for this work at the Biological Laboratory and the hesitation one feels in conducting experiments on contagious diseases in premises so closely situated to a valuable herd on the Experimental Farm. It is to be hoped that some additional facilities may be provided so that the very necessary work of research can be carried on.

The branch laboratories at Lethbridge and Agassiz have done good work in their respective fields.

At Lethbridge a very large number of tests of blood have been made for the control of dourine. This is work calling for the very highest degree of skill and experience, and the success of the Health of Animals Branch in eradicating dourine is almost entirely due to the reliable tests made at the laboratory.

The Agassiz Laboratory has done good work in investigating many obscure problems relating to the health of livestock in British Columbia. The poisonous nature of common bracken has been demonstrated by experiment and a bulletin on the subject published. Bracken or fern in the hay has caused many deaths among farm horses.

MEAT AND CANNED FOODS DIVISION

MEAT AND MEAT FOOD PRODUCTS

The work of this division has been unusually heavy during the past year as the slaughterings of cattle, sheep and swine have shown an increase of nearly 48 per cent.

This work was carried on by a depleted staff and the thoroughness with which they performed their work is borne out by the statement of the British authorities who placed on record their high opinion of the work of the Canadian meat inspection staff during the year past.

The character of this work was further attested by the small number of complaints that were received, in fact the complaints were fewer in number than those which were expected as a matter of course in normal times.

During the year the usual examinations were held and twenty-two candidates who presented themselves were successful in obtaining the required number of marks.

An amendment to the Act has been secured by which this division has been given control of imported food stuffs. This amendment completes in a measure the intentions of the Act, namely: that the consumers of meat and meat food products in Canada may have some assurance as to the wholesomeness of the raw materials used, the sanitary conditions under which they are prepared and the honesty of the labels placed thereon. In the past this was assured in so far as products manufactured in Canada were concerned, but no control was exercised over imports and great quantities of food were brought into Canada, of which the soundness, sanitary handling and labelling were open to serious question. New regulations will be drafted governing this trade and the work of this division will be developed in order properly to supervise and control imported foods.

Prosecutions were instituted for infractions of the law and in every case a conviction was secured.

During the year one of the largest establishments in Canada, the Harris Abattoir, Limited, Toronto, was very seriously damaged by fire. The co-operation of our staff at the time of this fire assisted in the salvaging of thousands of pounds of good food which would otherwise have been destroyed. Immediately afterwards the plant was rebuilt and enlarged and today it is looked upon as one of the more modern of the packing establishments operating in Canada.

A number of new establishments were placed under the operation of the Act during the past twelve months, but inspection was refused to others where the construction and sanitary equipment were not up to the standard required.

The improvements made in the meat packing establishments in the course of the past year were greater perhaps than at any time since inspection was inaugurated. Tens of thousands of dollars were expended by the managements in bringing their establishments up to the modern requirements with the result that today there are operating in the Dominion of Canada meat packing plants that will compare favourably (except perhaps in size) with those that are to be found in any other country in the world.

The spirit of co-operation between the managements and our inspectors, which has been so gratifying in the past, continues to exist.

Following are the statistics which show in a complete form the work carried on during the year. These statistics are commented on in the order in which they appear in this report.

For the year ending March 31, 1919, the following statistics are submitted:—

A. Total slaughter:—

Cattle	887,773—	Increase over	1917-18,	148,666	head, or 20·12%.
Sheep.....	399,961—	"	"	61,064	" " 18·13%.
Swine.....2,	333,354—	"	"	203,672	" " 9·56%.

B. The provinces show increases or decreases as follows:—

	Cattle		Sheep		Swine	
	Head	Percent	Head	Percent	Head	Percent
Ontario	+31,886	9·52	+34,612	21·75	− 2,697	0·22
Quebec	+55,057	31·25	− 3,570	3·84	+ 43,181	14·95
Manitoba	+19,033	18·05	+18,186	127·50	+116,546	58·88
Saskatchewan	+16,233	92·50	+ 1,215	27·18	+ 42,829	112·10
Alberta	+23,675	29·81	+13,436	52·19	− 7,371	2·47
British Columbia	+ 2,247	10·25	− 93	0·89	+ 4,505	13·27
New Brunswick	+ 545	158·43	− 59	0·52	.....	.....
Nova Scotia	.....	.....	.....	.....	.....	.....
Prince Edward Island	+ 12	0·37	− 2,663	14·42	+ 6,679	39·52

C. The percentage of slaughter for each province to the total for Canada:—

	Cattle Per cent	Sheep Per cent	Swine Per cent
Ontario	41.33	48.68	53.66
Quebec	26.04	22.46	14.23
Manitoba	14.02	8.15	13.48
Saskatchewan	3.81	1.43	3.47
Alberta	11.61	9.85	12.50
British Columbia	2.72	2.61	1.65
New Brunswick	.10	2.85	....
Nova Scotia	....	....	....
Prince Edward Island	.37	0.97	1.01

Slaughterings (Table B)

Cattle.—All provinces show an increase in killing.

Sheep.—Ontario and the three Prairie Provinces show a large increase, while Quebec, British Columbia and the Maritime Provinces show decreases. It is very satisfactory to have an increase in sheep killing. Canada could and should produce all the mutton consumed without importing.

Swine.—With the exception of Ontario and Alberta, where there are slight decreases, we have an increase in swine killing, but comparing same with last year's kill, it is not up to expectations and, considering the high prices paid, it should have been greater.

Provincial Percentage to Total Kill (Table C)

Ontario still holds the premier position as to having the largest killing of the provinces, but lost several points in cattle and swine this year, showing 41·33 per cent against 45·33 in cattle, and 53·66 per cent against 58·94 in swine, last year. Sheep increased about 1½ per cent over last year.

In Quebec we find a slight increase in cattle of 2¼ per cent, sheep a decrease of 5¼ per cent, and in swine a slight increase of less than 1 per cent.

The three Prairie Provinces show an increase in all killings, with the exception of Manitoba in cattle and Alberta in swine, both of which show a slight decrease.

British Columbia is about the same as last year.

The Maritime Provinces show little change from last year, although the tendency in Prince Edward Island is an increase owing to improved facilities and additional killing plants.

SESSIONAL PAPER No. 15b

During the course of re-inspection the following meats were condemned:—

	Cattle	Sheep	Swine	Poultry
	Lb.	Lb.	Lb.	Lb.
Bruised	10,595	....	43,859	....
Decomposed	149,161	1,644	54,410	....
Dirty	390,113	1,032	163,215	....
Sour	177,745	4,026	142,960	....
Various	.....	2,213	335	2,257
Total	727,614	8,915	404,779	2,257

Total amount condemned on reinspection 1,143,565 pounds.

Customs statistics show that Canada imported and exported the following during the year:—

		Imports	Exports
Cattle	(live)	7,242	311,496
Sheep	"	12,440	120,131
Swine	"	3,078	32,053
Beef	(lb.)	1,891,713	127,113,294
Mutton	"	5,928,089	1,933,808
Pork	"	15,899,237	160,032,547
Lard	"	644,969	2,640,658
Canned meats		531,403	14,140,717
Miscellaneous meats		1,229,527	6,183,554

Carcass Condemnations

Cattle:—The percentage of animals condemned to total kill is about the same as last year, cattle being 1·07 both years; sheep, 0·12 against 0·13 last year; swine, 0·23 against 0·27 last year.

In cattle the proportion condemned for tuberculosis is somewhat lower than last year, 53·85 per cent against 58·42, while those for bruises, cripples, and imperfect bleeding are higher, 4·68 per cent against 3·22 per cent.

Those condemned for emaciation are higher this year, 3·63 per cent against 1·80 per cent.

Cysticercus bovis are lower this year than last, 1·57 per cent against 2·64 per cent.

Emaciation claims a percentage of 21·81 against 22·41 previous year.

The proportion of calves killed to total slaughter is 18·41 per cent; last year, 14·09 per cent.

Sheep:—There is nothing calling for comment in sheep condemnation.

Swine:—Tuberculosis again claims the highest condemnation in swine, 69·78 per cent against 75·25 per cent, due partly to more dairy by-products being pasteurized and also to a larger percentage of western hogs being killed where the disease is not so heavy as in the east.

Cysticercus cellulosae accounted for 5·97 per cent against 5·81 per cent last year.

Hog cholera is much higher this year, 204 carcasses, or 3·76 per cent, against only 6 carcasses last year.

In comparison with last year our exports of live cattle are much higher, 311,496 against 191,356 last year, the number of head one-year-old or less being much less, they representing only 12·80 per cent of total exported, against 23·68 last year.

The number of sheep exported was 120,131, against 134,705. The lambs represent a percentage of 78·27 per cent, against 84·65 per cent last year.

Our exports of meats and lard were much higher than last year, while all meat and lard imports are considerably less than last year.

The following is a comparison between the hog killing of Canada, Denmark, and Ireland for the calendar years 1912-1918:—

	Canada	Denmark	Ireland
1912	1,650,966	2,084,786	1,416,490
1913	1,564,246	2,215,850	1,181,285
1914	2,255,479	2,654,041	1,266,620
1915	2,616,461	1,960,965	1,376,063
1916	2,313,389	1,534,011	1,277,900
1917	2,086,009	*1,000,000	967,475
1918	2,259,736	*638,000	730,177

*Estimated.

The following summary shows the result of post-mortem inspections of cattle, sheep, and swine from April 1, 1918, to March 31, 1919:—

Cattle marked "Canada Approved"	878,198
Carcases of cattle "Condemned"	9,575
Percentage of cattle "Condemned"	1.07
Portions of cattle "Condemned"	264,578
Sheep marked "Canada Approved"	399,479
Carcases of sheep "Condemned"	482
Percentage of sheep "Condemned"	0.12
Portions of sheep "Condemned"	108,478
Swine marked "Canada Approved"	2,327,929
Carcases of swine "Condemned"	5,425
Percentage of swine "Condemned"	0.23
Portions of swine "Condemned"	1,000,681
Total number of carcases "Passed"	3,605,606
Total number of carcases "Condemned"	15,482
Percentage of carcases "Condemned"	0.43
Total number of portions "Condemned"	1,373,737

In addition to the animals slaughtered at inspected establishments, the following amounts of dressed and cured meats and lard, etc., were received during the fiscal year from foreign countries:—

Beef	(lb.)	1,942,239
Mutton	"	3,328,857
Pork	"	11,862,585
Lard	"	201,153

DISEASES FOUND AT ESTABLISHMENTS UNDER INSPECTION.

Diseases	Cattle			Sheep			Swine			Poultry
	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Lb.
Abscess	15	40,739		5	247		10	6,196		
Actinomycosis	40	41,393					2	3,759		
Adhesions		12,357			933			10,641		
Arthritis	17	14		5	12		56	388		
Angiomatosis		5,218								
Bruises	172	109,341	10,595	21	1,082		14	17,328	43,859	
Cripples	258	301		36	27		92	9,167		
Cysts		615			285			3,962		
Cysticercus Bovis	151	2,893								
Cysticercus Cellulosae							324	171		
Cysticercus Ovis				14	196					
Cysticercus Tenuicollis				1	327					
Congestion		27			445		3	178		
Cirrhosis		31			2			147		
Decomposed			149,161			1,644			54,410	
Dirty		6,673	390,113		589	1,032		9,107	163,215	
Emaciation	348			138			27			
Enteritis	7			4			33			
Emphysema		1		3			1	203		
Hernia		7			2			101		
Hydraemia	79			61			4			
Hog Cholera							204			
Immaturity	2,089	4		4						
Improper Bleeding	18			14			42			
Inflamation	2			1			17			
Icterus	7			4			12			
Induration										
Metritis	36			4			20			
Mucoid Degeneration	408									
Melanosis		4						2		
Necrosis		39			511			5,714		
Nephritis	14			3			8			
Parasites		4,987		2	103,778		3	66,389		
Pericarditis	57			1			8			
Peritonitis	47			7			107			
Pleuritis	21			3			96			
Pneumonia	158			110			177			
Pyemia or Septicaemia	330			25			258			
Sexual Smell				3			10	1,027		
Skin Disease		11					3	1,667		
Sarcoma	16						5			

DISEASES FOUND AT ESTABLISHMENTS UNDER INSPECTION—*Concluded*

Disease	Cattle			Sheep			Swine			Poultry
	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Lb.
			177,745			4,026			142,960	
Sour										
Septic Infection	25						3,786	863,079		
Tuberculosis	5,156	37,770		1			8	9		
Tumours	6	17					6			
Uraemia	3						89	1,446	335	
Various	95	2,136		12	42	2,243				
Total	9,575	264 578	727,614	482	108,478	8,915	5,425	1,000,681	404,779	2,257 and 181 carcases
Found dead	811			673			2,449			

SESSIONAL PAPER No. 15b

FRUITS AND VEGETABLES. EVAPORATED AND CONDENSED MILK

In June of this year by Order in Council new standards of quality were adopted for fruits, vegetables and evaporated apples. These standards were the result of information that had been gathered and practical canning tests that had been made during the past number of years.

It had been felt that the consumers had no means whatever of forming an opinion as to the contents of a package by a study of the label that was placed thereon. Neither did there appear to be any protection for the manufacturer who was packing a really high grade article as these products were placed in hermetically sealed containers. As the result of an examination of a number of samples it is safe to say that the poorest quality found was invariably labelled with the most expensive labels and the statements appearing on these labels were entirely contrary to the facts.

The standards as promulgated were very carefully considered. They were submitted to the manufacturers a year previous to their becoming law and an inspector of the department went from place to place throughout the country and actually packed in the different canneries their various canned products in accordance with the requirements of these standards, thus demonstrating beyond question that the standards were practical and that any manufacturer could, if he wished, grade his products in such a manner that a statement could be placed upon the tin which would afford the purchaser a reasonably accurate knowledge of the contents.

This procedure was a step in advance of that followed by manufacturers and canners of any other country in the world and has received the strong commendation of those engaged in this trade in other countries, so much so that the California Canners, the largest organization in existence, have adopted our nomenclature.

On the strength of these standards of quality and our supervision and inspection Canada was able to sell to the Allies over a million pounds of evaporated apples at a higher price than was paid for the best quality of a similar product purchased in the United States. This is indeed gratifying in view of the fact that the Dominion had lost entirely her export trade in evaporated apples, except with the United States, owing to the manner in which this product had been forwarded in past years to South Africa and continental Europe.

On account of wages being high and tin and raw materials costing decidedly more than in previous years, the pack of canned fruits and vegetables was somewhat restricted, which tended to further increase the already high price of these products. It is to be hoped that with a return to normal conditions and an increase in production this class of foods will soon be reduced in cost. With the supervision now being exercised over these products and the wonderful improvement in the sanitary conditions surrounding their manufacture, the increase in the consumption of canned fruits and vegetables should be such as would make this one of the greatest industries of the Dominion. Situated as we are, with such favourable conditions for the production of fruits and vegetables, their economical handling by modern canners should result in the placing on the market of a necessary food at a price that could be taken full advantage of by all classes.

The season for evaporated apples was somewhat short and the quantity manufactured rather below normal, yet our ability to sell to the Allied Purchasing Commission the quantity above mentioned placed the Canadian market in a very favourable condition and the demand was keen. The rigid enforcement of the law regarding moisture has removed one of the greatest difficulties in regard to the keeping qualities of this product. With the new standards of quality, which will be just as rigidly enforced, we are looking forward to a greater development in this particular trade.

During the year, at the request of the Allied Purchasing Commission, we continued not only the supervision of the establishments engaged in the preparation of evaporated and condensed milk but assumed the responsibility of checking up the weight and quality of this product, with the result that we were able to find a ready export market for all that Canada could produce and it is safe to say that we would not have been able to obtain and hold this market if it had not been for the supervision and control given us under the Act.

Little trouble was experienced in maintaining satisfactory sanitary conditions in the different establishments. The majority of plants are clean and little fault can be found with them. There are, however, some and probably there will always be a few that require close supervision and watching to keep them up to the mark. This is not so much due to unwillingness on the part of the manufacturer to obey the law, but rather to carelessness and the lack of knowledge of what constitutes cleanliness.

REPORT

OF THE

VETERINARY DIRECTOR GENERAL

FOR THE

YEAR ENDING MARCH 31, 1920

CONTAGIOUS DISEASES DIVISION

The high standard of health of Canadian live stock has been maintained throughout the year. No extensive visitation of contagious disease has occurred and further progress has been made in the control of those diseases, such as glanders, hog cholera, and cattle mange which still persist to a limited extent in some parts of this vast country.

These diseases are separately reported upon in the following pages.

GLANDERS

A further reduction in the number of cases in comparison with last year, and the limitation of the disease to two provinces only are satisfactory features of the situation. All the outbreaks have been efficiently dealt with and the disease eradicated.

GLANDERS STATISTICS BY PROVINCES APRIL 1, 1919 TO MARCH 31, 1920

Province	Horses, mules and asses tested and found healthy	Horses killed	Valued at $ cts.	Compensation paid $ cts.	Clinical reactors	Electoral district in which glanders was detected	Remarks
Nova Scotia	4						
New Brunswick	130						
Quebec	1,101						
Ontario	359						
Manitoba	1,987	55	10,095 00	6,729 83	8	55 Dauphin.	43 at first test. 11 at second test. 1 at third test.
Saskatchewan	1,851	1	50 00	33 33		Weyburn.	At first test
Alberta	1,126						
British Columbia and Yukon	446						
Total	7,271	56	10,145 00	6,763 16	8		

COMPENSATION PAID IN PREVIOUS YEARS

Disease	1904–5	1905–6 5 mos.	1906–7	1907–8	1908–9	1909–10	1910–11	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
Glanders	147,851	108,045	142,057	102,868	73,386	48,686	57,122	77,439	60,271	34,563	35,556	23,102	22,238	19,849	9,506	6,763
Hog cholera	5,412	1,709	2,193	3,079	9,912	7,087	8,818	23,446	52,785	61,588	196,981	33,699	30,497	13,031	23,342	19,001
Dourine	16,029	6,806	10,336	3,449	2,506	3,419	3,406	1,740	2,096	48,743	32,080	17,389	3,222	1,340	261	70
Tuberculosis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*3,144	2,362	11,149	10,201	**31,726
	$169,292	116,560	154,586	109,396	85,804	59,192	69,346	102,625	115,152	144,894	264,617	77,334	58,319	45,369	43,310	57,560

*Municipal testing begun in this year. **Accredited herd control work begun in this year.

ANIMALS SLAUGHTERED IN PREVIOUS YEARS

Disease	1904–5	1905–6 5 mos.	1906–7	1907–8	1908–9	1909–10	1910–11	1911–12	1912–13	1913–14	1914–15	1915–16	1916–17	1917–18	1918–19	1919–20
Glanders	2,113	1,387	1,881	1,324	981	627	666	853	638	353	338	241	228	190	83	56
Hog cholera	1,110	376	228	553	1,881	1,127	1,346	4,249	8,466	9,900	34,779	5,700	4,623	2,212	2,163	1,642
Dourine	292	120	167	49	28	37	41	18	18	471	394	228	48	16	5	2
Tuberculosis	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	144	101	284	181	330

HOG CHOLERA

Work during the year followed the lines previously adopted, namely, licensing of all premises where collected garbage is fed to hogs, frequent inspection of these premises and herds of hogs thereon, enforced cooking of garbage before feeding it to hogs, prompt notification when disease is suspected, and vigorous eradication of hog cholera wherever found. This is followed by disinfection of premises and a period of three months quarantine during which no fresh hogs are allowed upon the premises.

Experience shows that nearly all hog cholera in Canada originates on premises where garbage is fed to hogs. Cooking is an effectual safeguard when properly done, but many men are careless and indifferent, the cost of fuel is an item to avoid, and consequently the cooking is often insufficient and frequently neglected altogether. The carelessness of the individual may then be followed by an outbreak of hog cholera and involve his neighbours' pigs as well as his own.

Such neglect cannot be passed over without putting a premium on carelessness, and placing the man who is honestly trying to carry out the rules laid down in the regulations at a disadvantage as compared with the happy-go-lucky man who only half cooks his garbage or cooks it not at all.

The department has therefore felt it necessary to prosecute many cases of this kind and has secured a large number of convictions. These should have the effect of impressing upon garbage feeders the necessity of carrying out the regulations as regards the cooking of garbage, and thus eventually reduce our annual losses from this disease.

As garbage feeding is followed in the proximity of all large towns and cities in Canada it may be expected that outbreaks may occur in any province at any time. That such is the case is shown in the following table:—

HOG CHOLERA STATISTICS BY PROVINCES, APRIL 1, 1919 TO MARCH 31, 1920

Province	No. of outbreaks	No. of hogs involved	No. of hogs slaughtered	Valued at	Compensation paid	Premises quarantined on suspicion	No. of hogs involved	No. of hogs slaughtered for examination	Value
				$ cts.	$ cts.				$ cts.
Nova Scotia	2	478	32	605 00	403 33				
Ontario	54	1,606	631	11,693 00	7,201 50	142	2,705	58	1,102 00
Manitoba	19	1,965	375	7,430 00	4,633 26	14	168	2	40 00
Saskatchewan	6	248	245	4,647 60	3,098 37	8	65	3	45 00
Alberta	5	405	256	3,484 00	2,322 63	20	772	2	38 00
British Columbia	6	283	103	2,014 00	1,342 62	13	257		
Total	92	4,985	1,642	29,873 60	19,001 71	197	3,967	65	1,225 00

HOG CHOLERA OUTBREAKS BY PROVINCES

Province	Electoral District	No. of outbreaks	Hogs destroyed
Nova Scotia	Halifax	2	32
Ontario	Essex, North	32	334
	Essex, South	4	36
	York, South	6	118
	York, West	3	47
	Toronto, West	3	18
	Welland	2	20
	Rainy River	2	37
	Lambton, West	1	3
	Algoma, West	1	18
Manitoba	Winnipeg, Centre	5	227
	Winnipeg, North	1	35
	Springfield	7	79
	Portage	3	9
	Selkirk	1	5
	Lisgar	1	8
	Brandon	1	12
Saskatchewan	Moosejaw	5	202
	Kindersley	1	43
Alberta	Strathcona	2	103
	Edmonton, East	1	55
	Calgary, East	2	98
British Columbia	Cariboo	1	5
	Vancouver, South	3	58
	New Westminster	1	26
	Nanaimo	1	14

DOURINE

There is every reason to believe that this disease is now entirely eradicated in Canada. Blood testing was continued during the year and included all stallions in the district where the disease was formerly prevalent and also the horses and mares in the Blood Indian reserve—not a single reactor was found, but a few mares whose tests were not absolutely satisfactory were slaughtered as a precautionary measure.

Two animals were handed over to the Research Laboratory, both having given questionable reaction: Value, $105; compensation, $70.

Fifty-one animals were quarantined on suspicion, distributed as follows:—

District	Province	Suspects and Quarantined	Destroyed
North Battleford	Saskatchewan	43	
Weyburn	"	2	
Prince Albert	"	1	
Regina	"	1	
Lethbridge	Alberta	3	1
Bow River	"	1	
Macleod	"		1
		51	2

SCABIES

In preparation for a determined effort to stamp out cattle mange in the mange area of Alberta during the summer of 1920, several meetings were held in Calgary at which the ranchers and farmers of the area met with officials of the Department of Agriculture. After a full discussion of the situation, the stockmen pledged their hearty co-operation in the effort to be made and plans were outlined for carrying out the work.

Following this the whole area was sub-divided into dipping districts. A meeting was held in each district at which one of the veterinary inspectors of this branch was present and after free and full discussion an organization was created. Resulting from this work, every dipping district was equipped with a staff whose members were selected by the farmers themselves, to look after the construction of the dipping vat if a new one was needed, the repairing of existing vats, the preparation of the dipping mixture and maintaining it at the proper temperature and strength, the bringing of the cattle to the dipping vats, their subsequent isolation from undipped cattle, the reporting of owners neglecting to bring cattle to the dip, and the keeping of records of the number of cattle put through the dip.

The department made a grant of $400 towards the construction of new vats provided the location was approved and the vat constructed in accordance with the standard plan.

With these careful preparations it is hoped as soon as favourable weather permits, to dip twice all the cattle in the mange area, and following this, if the dipping has been succesfully carried out, to remove the restrictions now in force in this district, abolishing the mange area.

CATTLE MANGE

Province	Outbreaks	Animals Affected	Animals Quarantined
Manitoba	....	....	127
Saskatchewan	26	284	13,548
Alberta	284	2,079	107,526
British Columbia	2	3	122
Total	312	2,366	121,323

One hundred and ninety-eight thousand seven hundred and twenty cattle and 3,313 calves were inspected on being presented for shipment from the quarantined area in Alberta and Saskatchewan and 173,508 cattle were inspected on arrival in Winnipeg.

HORSE MANGE

Province	Outbreaks	Animals Affected	Animals Quarantined
Ontario	1	3	6
Manitoba	13	37	98
Saskatchewan	4	8	38
Total	18	48	142

Five thousand four hundred and fifteen horses and eight mules were inspected on being presented for shipment from the quarantined area in Alberta and Saskatchewan.

SHEEP SCAB

A limited amount of this disease was found to exist in the provinces of Manitoba and Saskatchewan and eradicated by dipping. The origin of these outbreaks has not been definitely ascertained, but as the disease in not known to exist elsewhere in Canada and the outbreaks occurred in the Southern part of the provinces named and not far from the International boundary there is some reason for believing that it may have been introduced by smuggling in sheep from the United States.

Province	Outbreaks	Animals Affected	Animals Quarantined
Manitoba	4	407	1,421
Saskatchewan	2	268	568
Total	6	675	1,989

ANTHRAX

No outbreaks were dealt with during the year. 277 animals were quarantined on suspicion.

Province	Animals Quarantined
Quebec	179
Ontario	33
Alberta	65
Total	277

ULCERATIVE LYMPHANGITIS

(Preiss-Nocard disease)

The return of horses to Canada from France following the armistice was strongly opposed by this branch, as it was considered highly probable that they might introduce diseases unknown in Canada. Importation was therefore limited to a small number of officers chargers to the number of 105. These were landed in Montreal and placed in strict quarantine for a period of six months, and submitted to frequent inspection by our veterinary experts and the usual mallein test. Shortly after the horses went into quarantine one was noticed to be suffering from slight swelling of the right hind leg and the appearance of a small inflamed area. He was promptly removed from the stable containing the other horses and placed in one corner of a large building and strictly isolated. This building also contained four other horses suspected of mange and these were tied at intervals of about 25 feet down the side of the same building in which the first suspect was placed. Conditions were such that each horse in this building could not possibly touch its neighbouring horse, and separate stable utensils were used for each. The building was a large one having formed part of the Remount depot and could hold about 200 horses.

The inflamed area on the leg of the first horse rapidly developed into an ulcer and was strongly suggestive of ulcerative lymphangitis, a highly communicable disease which gave much trouble among army horses in France. The return of Capt. E. A. Watson at this time gave the opportunity of using the skill and experience of an officer who had seen much of the disease, and a positive diagnosis was reached, not only from the characteristic features of the case, but by the application of a specific laboratory test to the blood. The horse was destroyed and all possible precautions taken in the way of disinfection to prevent dissemination of the disease.

The second case occurred in the horse tied next to the one destroyed, although there was no reason to believe that they had ever been in contact either directly or indirectly. As soon as a positive diagnosis was reached this horse was destroyed and disinfection of the building repeated.

A third case developed a month later and this was the third animal in the row from the one in the corner. This was followed by the fourth some time later. The disease had now passed down the row, taking one horse after another in regular succession, until only one remained.

As the large building was now very cold for a single horse it was removed to a box stall in a third building. It appeared quite healthy, but strict isolation was maintained. About this time the blood test previously referred to was applied to the horses in the first barn, none of which reacted. The animal in isolation however gave a strong positive reaction. As the period of quarantine was now nearing its close, it was decided to kill her without waiting for symptoms to develop.

The period of quarantine for the other horses was completed without any further cases developing. Blood tests revealed no cause for suspicion and they were released to their owners.

Confirmation of the nature of the disease was obtained by the isolation of the Preiss Nocard bacillus in pure culture and its maintenance in the laboratory.

TUBERCULOSIS

The accredited herd plan now in successful operation for over two years in the United States was put in operation in Canada by Order in Council dated September 20, 1919, and the following regulations put into effect:—

Regulations of the Establishment and Maintenance of Tuberculosis-Free Accredited Herds of Cattle

1. A tuberculosis-free accredited pure-bred herd is one which has been tuberculin tested by the subcutaneous method, or any other test approved by the Veterinary Director General, and applied by the regularly employed veterinary inspectors of the Health of Animals Branch of the Federal Department of Agriculture. Further, it shall be a herd in which no animal affected with tuberculosis has been found upon two annual or three semi-annual tuberculin tests, as above described, and by physical examination.

2. The entire herd, or any cattle in the herd, shall be tuberculin tested or retested at such time as is considered necessary by the Veterinary Director General.

3. No cattle shall be presented to the tuberculin test which have been injected with tuberculin within 60 days immediately preceding or which have at any time reacted to a tuberculin test.

4. No herd shall be classed as an accredited herd in which tuberculosis has been found by the application of the test, as referred to in paragraph 1, until such herd has been successfully subjected to two consecutive tests with tuberculin, applied at intervals of not less than six months, the first interval dating from the time of removal of the tuberculous animals from the herd.

5. Prior to each tuberculin test satisfactory evidence of the identity of the registered animal shall be presented to the inspector. Any grade cattle maintained in the herd, or associated with animals of the herd, shall be identified by a tag or other markings satisfactory to the Veterinary Director General.

6. All removals of registered cattle from the herd, either by sale, death or slaughter, shall be reported promptly to the said Veterinary Director General, giving the identification of the animals, and, if so, the name and address of the person to whom transferred. If the transfer is made from the accredited herd to another accredited herd, the shipment shall be made only in properly cleaned and disinfected cars. No cattle shall be allowed to associate with the herd which have not passed a tuberculin test approved by the Veterinary Director General.

7. All milk and other dairy products fed to calves shall be that produced by an accredited herd, or, if from outside or unknown sources, it shall be pasteurized by heating to not less than 150°F. for not less than 20 minutes.

8. All reasonable sanitary measures and other recommendations by the Federal authorities for the control of tuberculosis shall be complied with.

9. Cattle from an accredited herd may be shipped to the United States accompanied by the certificate of the Veterinary Director General, without further tuberculin test for a period of one year, subject to the rules and regulations of the State of destination.

10. Strict compliance with these methods and rules shall entitle the owner of tuberculosis-free herds to a certificate, "Tuberculosis-Free Accredited Herd," to be issued by the Veterinary Director General. Said certificate shall be good for one year from date of test unless revoked at an earlier date.

11. Failure on the part of owners to comply with the letter or spirit of these methods and rules shall be considered sufficient cause for immediate cancellation of co-operation with them by the Federal officials.

12. Whenever in carrying out this order it is necessary to slaughter an animal or animals for the eradication of tuberculosis from a herd, the animal or animals shall be valued and compensation awarded as provided in Sections 6 and 7 of the Animal Contagious Diseases Act.

The announcement of these regulations was immediately followed by applications from many breeders to have their herds submitted to the test, and the figures in the accompanying table will show the extent to which this work has already grown.

MUNICIPAL TESTING

No new municipalities were taken on during the year, but all those already on out list continue to enjoy the advantages of a milk supply from tuberculin tested cows.

IMPROVEMENTS IN TESTING

Until recently, a subcutaneous or thermal tuberculin test has been the only one receiving general recognition, further experience with other tests, notably the intradermal, is strengthening the claims of its advocates as being of equal value. In some of the United States this test has been official for some time and it has certain inherent advantages which render it attractive to those in control work. It relieves the inspector of the drudgery of prolonged observation of temperature, it economizes the time of inspectors, and it is not readily interfered with by accidental or intentional influences. It can also be applied frequently to the same animal without producing immunity to tuberculin.

Tuberculin testing has been going on in many herds for several years, and with the repeated injection of tuberculin in the same animals, there is grave danger of producing a condition where tuberculin will give no reaction in a diseased animal when used in the subcutaneous test. The intradermal method will cause a reaction in most of such animals and is therefore of great value in testing herds where tuberculin has frequently been injected.

A third test, the opthalmic, is also receiving much attention and although not yet given the confidence of either of the other tests, is undoubtedly of value.

Combinations of two or three of these tests are now frequently used with advantage revealing cases of tuberculosis which a single test would have failed to pick out. The branch is making use of all these methods of testing from time to time with a view to attaining the highest possible efficiency in the detection of latent or obscure cases of tuberculosis, which if left in a herd in process of cleaning up for accreditation would sooner or later become 'spreaders' and disseminate the disease.

TUBERCULIN TESTING—ACCREDITED AND SUPERVISED HERDS, IMPORT, EXPORT AND GENERAL, APRIL 1, 1919 TO MARCH 31, 1920

Heading	Number tested	Reactors	Percentage of reactors	Value	Compensation paid	Number found suspicious	Healthy	Remarks
				$ cts.	$ cts.			
Accredited herds	2,173	212	9·75	32,743 00	21,827 95	.....	1,961	172 animals slaughtered. 33 being prepared for block. 15 under Bang system. 1 returned to previous owner. 90 herds under accreditation involving 3,791 cattle.
Import	833	8	0·96	.....	.....	1	824	
Export	3,910	115	2·94	.....	.....	19	3,776	
Supervised herds and for shipment to various provinces	3,550	341	9·50	.....	.....	16	3,193	
General testing by private practitioners with Departmental tuberculin	4,305	240	5·57	.....	.....	11	4,054	
Total	14,771	916	6·20	32,743 00	21,827 95	47	13,808	

TUBERCULOSIS MUNICIPAL TESTING, APRIL 1, 1919 TO MARCH 31, 1920

Town	Cattle tested. Number of test									Total cattle tested	Reactors	Percentage of reactors	Value	Compensation paid	Remarks
	1	2	3	4	5	6	7	8	9						
													$ cts.	$ cts.	
North Battleford, Sask..	127	62	107	64	55	16	1	4	3	439	5	1·13	734 00	489 32	
Saskatoon, Sask.....	922	428	267	191	127	117	32	5	....	2,089	27	1·29	2,615 00	1,743 26	5 reactors from previous year slaughtered and paid for.
Regina, Sask.....	324	143	89	80	41	5	.....	.....	.....	682	15	2·19	1,560 00	1,039 95	1 reactor from previous year slaughtered and paid for.
Virden, Man.....	92	90	44	13	....	.....	.....	.....	.....	239	14	5·85	1,290 00	859 95	
Ottawa, Ont.....	871	526	243	91	40	31	12	..	...	1,814	85	4·68	8,650 00	5,766 38	6 reactors from previous year slaughtered and paid for.
Total.....	2,336	1,249	750	439	263	169	45	9	3	5,263	146	2·77	14,849 00	9,898 86	

NOTE.—It must be remembered that most of the herds comprised in this table have been under test for one or more years and all reactors removed. Hence the comparatively low percentage of disease shown.

SESSIONAL PAPER No. 15b

PATHOLOGICAL DIVISION

This division continues to supply the tuberculin, mallein and other biological agents required in the work of the branch, also manufacturing and distributing at the cost of production large amounts of blackleg vaccine for farmers to use in the protection of their herds.

It also renders most valuable service in the diagnosis of disease from specimens sent to the laboratories.

Research work is constantly being carried on in regard to diseases of animals, such problems as swamp fever of horses, contagious abortion, parasites of sheep and horses, receiving special attention. From time to time, as results are obtained, bulletins on these subjects will continue to be issued.

Fur farming is now receiving the attention it claims and the problems of the fox breeders are undergoing study with a view to preventing as far as possible the losses sustained by the industry from parasites and disease. The Dominion Research Council is co-operating with the branch in this work and through a subcommittee is supervising some experiments on the nutrition of foxes. These experiments, in charge of a biochemist of established reputation, will be carried out at the Research Station Hull as soon as the necessary pens for the foxes can be erected. Some of the fox breeders of Prince Edward Island have kindly offered to lend the department the foxes needed for the work, thus saving the expense of purchasing the animals. Experiments in nutrition must of necessity extend over a considerable period of time so that immediate results cannot be expected.

Investigation of the diseases and parasites of foxes in domestication will be carried on simultaneously by a pathologist of this division located in Prince Edward Island.

The following figures indicate the great increase in the work of preparing and disbursing biological products as compared with the two previous years.

	1917-18	1918-19	1919-20
	Doses	Doses	Doses
Tuberculin (Subcutaneous)	28,076	23,454	30,060
" Opthalmic	.....	.....	15,840
" Intradermal	200	.....	1,250
Total	28,276	23,454	47,150
Mallein	20,350	10,8[illegible]0	15,719
Blackleg vaccine	249,910	182,374	99,610
Anti-abortion vaccine	....	1,042	1,936

IMPORT INSPECTIONS FROM UNITED STATES AND NEWFOUNDLAND.

Port	Horses	Mules	Cattle	Sheep	Swine	Goats
Sydney, N.S.	23				1	1
Yarmouth, N.S	7			2		1
St. John, N.B	57			98	37	
St. Stephen, N.B	20			11		
McAdam Jct., N.B	43		2	11	2	3 4
Debec Jct., N.B	7		2	3		
Woodstock, N.B	48			14		
Centreville, N.B	7			2		
Aroostook Jct., N.B	72		2	23		
Grand Falls, N.B	9					
St. Leonards, N.B	3					
Edmundston, N.B	9			3		
Florenceville, N.B	4		1	2		
N. B. General	2					
Quebec, Que	22					
Comins Mills, P.Q	[illegible]			14		

IMPORT INSPECTIONS FROM UNITED STATES AND NEWFOUNDLAND—Concluded.

Port	Horses	Mules	Cattle	Sheep	Swine	Goats	
Lake Megantic, Que	97		1				
Beauceville, P.Q	531						
Coaticook, P.Q	3		7				
Beebe Jct., P.Q	34		20				
Sherbrooke, P.Q	223	1	8				
Highwater, P.Q	21		5				
Abercorn, P.Q	7						
St. Armand, P.Q	36						
Lacolle Jct., P.Q	126	2	6	4			
Noyan Jct., P.Q	5		6				
St. Johns, P.Q	12	2	4				
Montreal, P.Q	20						
Athelstan, P.Q	75	2	1				
Dundee, P.Q	35		113				
St. Agnes de Dundee, Que	1						
Trout River, P.Q	5		2				
Quebec General	3						
Cornwall, Ont	11		4				
Prescott, Ont	46	3					
Morrisburg, Ont	3		5				
Brockville, Ont	21		8				
Kingston, Ont	8		1				
Toronto, Ont	1						
Niagara Falls, Ont	522	55	40	44		1	
Bridgeburg, Ont	164	6	14	3	9	3	Also 2 camel.
Windsor, Ont	240	10	96	25	43	5	Also 1 deer.
Sarnia, Ont	192	4	74	192	17	2	Also 1 buffalo and 2 elk.
Sault Ste. Marie, Ont	49		16		2	5	
Rainy River, Ont	21	2	19				
Fort Frances, Ont	105		17		5		Also 1 jackass and 2 ponies.
Emerson, Man	2,420	90	381	3,376	44	2	
Gretna, Man	196	4	111	6			
Snowflake, Man	81		23				
Bannerman, Man	340	3	152		1		
Manitoba General	26		3				
North Portal, Sask	1,931	44	2,586	27	52		
Northgate, Sask	384		33				
Big Muddy, Sask	709	11	42				
Willow Creek, Sask	447	6	5,194	325			
West Poplar, Sask	554	17	67	3,136			
Saskatchewan General	7		6				
Pinhorn, Alta	111		9				
Coutts, Alta	2,766	45	2,367	24,576	20	6	Also 294 elk and 2 donkeys.
Twin Lakes, Alta	309	4	1,399	7,109			
Newgate, B.C	131	2	22				
Kingsgate, B.C	769	22	271	5,436		9	
Nelson, B.C	22		63	294		2	
Rykerts, B.C			2				
Rossland, B.C	13		197	81			
Grand Forks, B.C	92		100				
Midway, B.C	12		256				
Myncaster, B.C	3						
Bridesville, B.C	39		16				
Keremeos, B.C	62	1	627				
Osoyoos, B.C	192		103	2,813			
Huntingdon, B.C	98	3	542				
New Westminster, B.C	4		29				
White Rock, B.C	529		1,121	235		18	
Vancouver, B.C	296	4		1,270		1	
Victoria, B.C	102	23	27	2		6	
Cascade, B.C	20		13				
White Horse, Y.T	21		81				
Forty Mile, Y.T	134						
Total	15,778	373	16,493	48,993	198	66	

IMPORT INSPECTIONS FROM EUROPE AND ELSEWHERE THAN UNITED STATES AND NEWFOUNDLAND.

St. John, N.B.	31	98			
Quebec, Que.		163	631	2	
Montreal, Que.	20		37		
Total	51	261	668	2	

IMPORT TESTING—GLANDERS.

Entered at	No tested	Entered at	No tested
		Brought forward	664
Yarmouth, N.S.	4	Bridgeburg, Ont.	16
St. John, N.B.	1	Windsor, Ont.	46
St. Stephen, N.B.	4	Sarnia, Ont.	45
McAdam Junction, N.B.	30	Sault Ste. Marie, Ont.	17
Debec Jct., N.B.	1	Rainy River, Ont.	19
Woodstock, N.B.	19	Fort Frances, Ont.	52
Centreville, N.B.	7	Emerson, Man.	670
Aroostook Jct., N.B.	35	Gretna, Man.	128
Grand Falls, N.B.	11	Snowflake, Man.	53
St. Leonards, N.B	3	Bannerman, Man.	181
Edmundston, N.B.	8	Sprague, Man.	25
Florenceville, N.B.	3	North Portal, Sask.	635
Comins Mills, Que.	1	Northgate, Sask.	257
Lake Megantic, Que.	89	Big Muddy, Sask.	125
Beauceville, Que.	61	Willow Creek, Sask.	447
Coaticook, Que.	3	West Poplar, Sask.	344
Beebe Jct., Que.	28	Pinhorn, Alta.	111
Sherbrooke, Que.	220	Coutts, Alta.	1,098
Highwater, Que.	4	Twin Lakes, Alta.	179
Abercorn, Que.	6	Newgate, B.C.	123
St. Armand, Que.	11	Kingsgate, B.C.	97
Lacolle Jct., Que.	4	Nelson, B.C.	3
Noyan Jct., Que.	5	Rossland, B.C.	10
St. Johns, Que.	11	Grand Forks, B.C.	92
Athelstan, Que.	17	Midway, B.C.	12
Dundee, Que.	6	Myncaster, B.C.	3
St. Agnes de Dundee, Que.	1	Bridesville, B.C.	38
Trout River, Que.	4	Keremeos, B.C.	25
Cornwall, Ont	9	Osoyoos, B.C.	87
Prescott, Ont.	5	Huntingdon, B.C.	54
Morrisburg, Ont.	2	New Westminster,	4
Brockville, Ont.	1	White Rock, B.C.	16
Kingston, Ont.	8	Vancouver, B.C.	3
Toronto, Ont.	1	Victoria, B.C.	1
Niagara Falls, Ont.	37	Cascade, B.C.	16
Forward	664	Total	5,034

PURE-BRED IMPORTS.

HORSES.

Breed—	Great Britain	United States	Total
Belgian		84	84
Clydesdale	45	2	47
Shetland		2	2
Percheron		249	249
Shetland		2	2
Standardbred		17	17
Suffolk		5	5
Thoroughbred	5	40	45
Trottingbred		3	3
	51	400	451

PURE-BRED IMPORTS—*Concluded.*

CATTLE

Breed—	Great Britain	United States	Total
Aberdeen Angus	..	12	12
Durham	..	2	2
Guernsey	..	9	9
Hereford	..	39	39
Holstein		38	38
Jersey	44	17	61
Polled Angus	..	7	7
Shorthorn	52	25	77
Ayrshire	165	5	170
	261	154	415

SHEEP

Breed—	Great Britain	United States	Australia	Total
Corriedale	..	..	17	17
Dorset	..	5	..	5
Hampshire	166	..	.	166
Leicester	12	..	..	12
Lincoln	18	..	..	18
Oxford	33		..	33
Romney Marsh	143		.	143
Shropshire	243	.	..	243
Southdown	18	..	.	18
Suffolk	35	.	..	35
	668	5	17	690

SWINE

Breed—	Great Britain	United States	Total
Berkshire	..	27	27
Chester White	..	11	11
Poland China	..	8	8
Yorkshire	2		2
O.G.C.		21	21
Duroc Jersey	..	16	16
	2	83	85

ANIMALS INSPECTED FOR EXPORT

Port	Horses	Cattle	Sheep	Swine	Goats
Charlottetown to Newfoundland	..	15	..	..	..
Sydney to Newfoundland	779	2,774	1,532	398	..
Sydney to St. Pierre	1	..	..	.	.
Halifax to St. Pierre	4	119	23	6	..
Halifax to Bermuda	53	50	..	122	..
St. John to Bermuda	..	7	..		..
St. John to Europe	..	180	..		..
Montreal to Europe	4	2,473	..	.	..
Montreal to Europe (via Boston)	39	180	..		.
Montreal to Great Britain	105	..	..		
Toronto to United States	..	64,741	8,620	74	.
Toronto to Europe	42	2,521	..	.	..
General Inspection Ontario to United States	..	261	10	..	.
Winnipeg to United States	..	151,217	1,647	327	.
North Portal to United States	89	94,194	6,118	38	..
General Inspection Saskatchewan to United States	3	30	.	..	..
General Inspection British Colum-bia					
General Inspection British Columbia to United States		12	111	14	10
Total	1,119	318,776	18,561	979	10

EXPORT ANIMALS REJECTED AT THE FOLLOWING PORTS.

Port	Horses	Cattle
Sydney	2	6
Montreal	..	14
Total	2	20

MEAT AND CANNED FOODS DIVISION

MEAT AND MEAT FOOD PRODUCTS

The slaughter for this year showed a slight increase over that of previous years, particularly in the case of sheep, which was 51 per cent greater than during the preceding twelve months. The killing of cattle increased almost 9 per cent but there was a decrease in hogs of almost 7 per cent.

Owing to the return of a large number of veterinarians from the front, it was possible to secure a number of inspectors who had been previously in the employment of this division, and in a slight measure this relieved the extreme pressure under which the staff had been labouring for the past five years

In co-operation with the Dairy Branch a number of prosecutions were instituted for infractions of the oleomargarine law and convictions were secured.

Two new oleomargarine plants started operation since the last annual report was made. Owing, however, to the rigid enforcement of the requirements of the law and to an apparent lack of knowledge on the part of the manufacturers, these establishments soon ceased work.

During the year the packing plant at Chatham re-opened under new management.

Extensive additions, changes and general overhauling took place in the establishments under inspection during the course of the year and the managements of these plants are to be commended on the manner in which they have carried out these requirements, particularly in view of the extremely high cost of material and labour.

A number of plants have adopted towards their employees a commendable attitude and one quite different to that assumed by some establishments in years gone by. They have instituted cafeterias in which the employees are furnished with meals at cost, rest rooms and reading rooms are supplied, halls are provided for different forms of entertainment and quite modern, though small, hospitals are maintained. This has tended to create a much better feeling and understanding between employer and employee and this naturally results in increased efficiency.

Complete and detailed statistics covering the work of the Meat Inspection Division are attached.

A. Total slaughter:—

Cattle..... 965,394—Increase over 1918-19 of 77,621 head or 8·86 per cent.
Sheep..... 601,170—Increase over 1918-19 of 203,209 head or 51·06 "
Swine.....2,171,650—Decrease under 1918-19 of 161,704 head or 6·93 "

B. The provinces show increases or decreases as follows;—

—	Cattle		Sheep		Swine	
	Head	%	Head	%	Head	%
Ontario	+ 2,161	0·58	+110,869	57·23	+122,507	9·78
Quebec	+44,636	19·30	+ 57,384	64·20	— 9,037	2·72
Manitoba	+ 3,522	2·83	+ 10,371	31·95	—125,346	39·86
Saskatchewan	+11,511	34·07	— 931	16·37	— 23,613	29·17
Alberta	+15,960	15·48	+ 17,296	44·14	—125,091	42·89
British Columbia	+ 1,741	7·20	+ 8,293	79·77	— 2,064	5·36
New Brunswick	— 523	58·84	— 4,040	35·57		
Nova Scotia						
Prince Edward Island	— 1,387	42·62	+ 3,967	25·11	+ 940	3·98

C. The percentage of slaughter for each province to the total for Canada:—

—	Cattle	Sheep	Swine
	%	%	%
Ontario	38·24	50·05	63·30
Quebec	28·58	24·42	14·87
Manitoba	13·25	7·12	8·72
Saskatchewan	4·69	0·79	2·64
Alberta	12·33	9·39	7·67
British Columbia	2·68	3·11	1·67
New Brunswick	0·04	1·22	.....
Nova Scotia	.....	.....	.....
Prince Edward Island	0·19	3·29	1·13

Slaughterings. (Table B)

Cattle.—The only provinces which do not show an increase are New Brunswick and Prince Edward Island, the relative increases being much below those of last year, especially Ontario, which was 9·52 per cent last period against 0·58 per cent this year; Saskatchewan last period 92·50 per cent, against 34·97 per cent this year. New Brunswick shows a decrease of 58·84 per cent, against an increase of 158·43 last year, and Prince Edward Island a decrease this year of 42·62 per cent, against 0·37 per cent last year.

Sheep.—With the exception of Saskatchewan and New Brunswick, all provinces show a decided increase both actual and relative, more especially Ontario, where the relative increase was 57·23 per cent.

Canada must still produce more mutton before we can stop importing.

Swine.—As was expected large decreases occurred, except in Ontario, where the relative increase was 9·78 per cent, and Prince Edward Island, where the relative increase was 3·98 per cent.

This decrease in hog production is serious and may adversely affect our good standing on the English market because that market must have a steady supply. Our Wiltshire are equal to the best of the imported bacon on the English market and the supply should be kept up.

With reference to the percentage of slaughter for each province to the total kill for all Canada (Table C), while Ontario still holds the lead as the largest killing province it is falling off in cattle, this year's percentage of 38·24 is lower than last year's, which was 41·33 per cent, and 45·33 per cent the previous year.

In sheep Ontario improved her position, the percentage being 2 per cent higher than last year.

The increased percentage in hogs is more noticeable this year, being 63·30 per cent against 53·66 per cent last year.

The provinces of Manitoba, Saskatchewan and Alberta reduced their killing percentage from 13·48 per cent, 3·47 per cent, and 12·50 per cent respectively last year to 8·72 per cent, 2·64 per cent, and 7·67 per cent respectively this year.

During the course of reinspection the following meats were condemned:—

—	Cattle	Sheep	Swine	Poultry
	lbs.	lbs.	lbs.	lbs.
Bruised	77,144	237	80,644	.....
Decomposed	129,264	5,831	69,872	.....
Dirty	434,946	2,940	208,737	.....
Sour	113,708	3,728	204,214	.....
Various	3,039	.....	21,422	63
Total	758,101	12,736	584,889	63

Total amount condemned on reinspection 1,355,789 pounds.

SESSIONAL PAPER No. 15b

Carcase Condemnations

The percentage of cattle condemned to total kill is somewhat higher than last year, being 1·28 per cent against 1·07 per cent last year. Sheep condemnations are 0·20 per cent against 0·12 per cent last year, and swine 0·23 per cent the same as last year.

In cattle we find as usual, that tuberculosis takes the highest toll in condemnations, although this year's total is much below last year's 39·42 per cent against 53·85 per cent.

Immaturity in calves accounted for 4,313 which is 34·96 per cent of carcases condemned and much higher than last year, which was 21·18 per cent.

Emaciation claims 7·28 per cent against 3·63 per cent last year. The greater part of these cattle were starved owing to blizzards in the western provinces. The same cause accounts for the large number of sheep condemned for emaciation.

The other condemnations are about the same or a little lower than last year.

Tuberculosis in swine is a shade lower than last year by 69·55 per cent against 69·78 per cent.

This disease in swine could be wiped out or nearly so, if we had compulsory pasteurization of milk and its by-products, used for the feeding of swine.

All other condemnations in swine are about the same as last year.

It is interesting to note the large number of cattle exported this year compared with last year, 515.000 against 311,000 last year. Of this total 84,000 were one year and under, American cattle prices being much higher than Canadian, while in hogs the reverse held good.

The following is a comparison between the hog killings of Canada, Denmark and Ireland for calendar years 1912 to 1919:—

	Canada	Denmark	Ireland
1912	1,650,966	2,084,786	1,416,490
1913	1,564,246	2,215,850	1,181,285
1914	2,255,479	2,654,041	1,266,620
1915	2,616,461	1,960,965	1,376,063
1916	2,313,389	1,534,011	1,277,900
1917	2,086,009	1,000,000	967,475
1918	2,259,736	*638,000	730,177
1919	2,332,387	*650,000	878,465

* Estimated.

The following summary shows the result of post mortem inspections of cattle, sheep and swine, from April 1, 1919, to March 31, 1920:—

Cattle marked "Canada Approved"	953,058
Carcases of cattle "Condemned"	12,336
Percentage of cattle "Condemned"	1.28%
Portions of cattle "Condemned"	250,051
Sheep marked "Canada Approved"	599,986
Carcases of sheep "Condemned"	1,184
Portions of sheep "Condemned"	150,821
Percentage of sheep "Condemned"	0.20%
Swine marked "Canada Approved"	2.166,592
Carcases of swine "Condemned"	5,058
Percentage of swine "Condemned"	0.23%
Portions of swine "Condemned"	954,959
Total number of carcases "Passed"	3,719,636
Total number of carcases "Condemned"	18,578
Percentage of carcases "Condemned"	0.50%
Total number of portions "Condemned"	1,355,831

In addition to the animals slaughtered at inspected establishments, the following amounts of dressed and cured meats and lard, etc., were received during the fiscal year from foreign countries:—

Beef	(lb.)	3,211,554
Mutton	"	2,191,572
Pork	"	55,745,805
Lard	"	5,176,538

DISEASES FOUND AT ESTABLISHMENTS UNDER INSPECTION

Disease	Cattle			Sheep			Swine			Poultry
	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Carcases	Portions	Lb.	Lb.
Abscess	10	42,164		15	382		8	5,887		
Actinomycosis	57	39,912			4		2	2,929		
Adhesions		15,654			1,519			9,190		
Arthritis	15	64		9	12		144	512		
Angiomatosis		2,711			1					
Bruises	208	89,090	77,144	49	1,848	237	17	10,354	80,644	
Cripples	251	355		31	71		55	9,519		
Cysts		2,144			237			2,932		
Cysticercus Bovis	131	2,073								
" Cellulosae							138	73		
" Ovis				18	260					
" Tenuicollis					289					
Congestion		35			20		1	145		
Cirrhosis		36					1	11		
Decomposed			129,264			5,831			69,872	
Dirty		14,694	431,946		2,167	2,940	1	12,039	208,737	
Emaciation	899			516			70			
Enteritis	11			9			21			
Emphysema	1	1						208		
Hernia		3			2			58		
Hydraemia	25			95			7			
Hog Cholera							249			
Immaturity	4,313			1						
Improper Bleeding	35			29			35			
Inflammation	6			1			8			
Icterus	11			7			24			
Induration								65		
Metritis	52			11			15			
Mucoid Degeneration	562			9						
Melanosis	1	20		1			1	3		
Necrosis		43		1	836			9,201		
Nephritis	32						11			
Parasites		4,461		1	140,801			92,968		
Pericarditis	95			3			15			
Peritonitis	73			21			151			
Pleuritis	24			6			61			
Pneumonia	147			242			146			
Pyemia or Septicaemia	310			54			231			
Sexual Smell							12	832		
Skin Disease		2					4	1,512		
Sarcoma	8			2			3			

Sour	.....	.....	113,708	.....	157	3,728	.....	204,214	.....	.....
Septic Infection	55	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuberculosis	4863	34,805	.....	12	.....	.....	3,518	794,578	.....	.....
Tumours	3	9	.....	.....	.....	.....	6	.....	.....	.....
Uraemia	1	.....	.....	3	.....	.....	7	.....	.....	.....
Various	135	1,775	3,039	36	2,215	.....	96	1,943	21,422	.....
Total	12,336	250,051	758,101	1,184	150,821	12,736	5,058	954,959	584,889	63 lbs. and 86 carcases.
Found dead	472	.....	.....	836	.....	.....	2,574	.....	.....	.....

FRUITS, VEGETABLES AND CONDENSED MILK

Early in the year a meeting of the managements of the different factories engaged in the canning of fruits and vegetables, was held at Toronto. At this meeting the standards adopted the year previous were discussed fully, particular attention being given to their practical operation. A number of suggestions were received and minor criticisms were made which will be borne in mind at the time that new regulations are drafted.

A commendable spirit of co-operation was shown by the manufacturers at this meeting who in some instances were inconvenienced and perhaps put to considerable expense as a result of the new standards, yet they were quite ready to admit that they were fair and just to the manufacturer and would undoubtedly be the means whereby confidence would be established in the purchaser. New regulations or orders quite naturally require some little time to insure their enforcement in all their completeness without friction, yet it can bè truly said that the objections made have been very few.

The greatest difficulty experienced by this office, was in the adjustment of the labels. The new law required that no labels should be used unless they had been approved. This involved a tremendous amount of work and it was surprising to find that hundreds of labels had been in use that did not conform with the law inasmuch as they did not give a true and correct description of the contents of the package on which they were placed. Some latitude however, was allowed the canner where the discrepancy on the label was not too glaring and permission was given for the reprinting of many thousands. At the same time it was necessary to absolutely forbid the use of others and to order the destruction of large quantities that could not be made to comply by any means whatever. Some manufacturers had purchased faulty labels when they might have known that the statements made thereon were absolutely contrary to the facts.

During the year inspectors of this division visited the majority of the wholesale houses throughout Canada and obtained samples of the products which had been shipped to them by the manufacturers. An examination was then made to determine whether or not the contents of the tins were actually what they were represented to be on the label. This has involved an immense amount of work which has been somewhat delayed owing to the small staff capable of carrying it out. The matter is now receiving more prompt attention and it is hoped that in the very near future a sufficient complement of qualified employees will be procured so that there will be absolutely no delay in reporting the results of such examinations.

Particular attention was given to the examination of imports and the evidence obtained will amply justify the control now vested in this branch by the amendment to the Act made a year ago.

Inspectors during the year visited regularly all the fruit and vegetable canneries as well as jam, jelly and pickle factories. From the reports received, these plants are, generally speaking, being maintained in a satisfactory condition.

Special attention was paid to establishments engaged in evaporating apples. The condition of these plants and the quality of the product being manufactured to-day as compared with that of a few years ago is ample justification for the money expended on their inspection and supervision.

The products now being exported from Canada will compare favourably with those from other countries, yet if the Canadian manufacturers want to establish themselves on our foreign markets, more attention must be paid to grading and to the handling and sale of this class of foods on a quality basis. It is a matter of surprise to find that the majority of the men responsible for the handling of these commo-

dities would, if left to themselves, pay no attention to the grading of the raw material or of the finished product. In too many instances they are content to hurry the fruit and vegetables into the cans and to get them on the market irrespective of the effect that such a procedure would have not only on the reputation of their own brands but on the trade in general.

There are, however, a number of establishments that are beginning, particularly of late, to pay more attention to the grading of their products and they are making an honest effort to place upon the market a really high-class food. With the rigorous enforcement of the standards of quality as shown in the new regulations these manufacturers will be protected to the extent that the careless or indifferent canner will not be permitted to show on his labels a quality above that which he actually produces.